Washington State Department of Ecology

The Future of Waste and Toxins in Washington

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More than half of Washington's water bodies are considered unsafe for swimming or fish harvesting due to elevated levels of toxics.

Washington State Department of Natural Resources

In nature there is no waste. What isn't needed by one plant or animal gets reused by another. Humans, however, generate large quantities of waste, some very toxic, and spend valuable time, energy, and money trying to keep it from harming us and the environment.

According to the state Office of Financial Management, population in Washington is projected to increase by 2.34 million people by the year 2030. Waste generation is predicted to increase at an even greater rate. Advances in science and technology will continue to provide opportunities for the creation of thousands of new chemical compounds.

Rising population, combined with a rise in disposable products and synthetic chemicals places increased demands on our communities and the environment. Washington has made tremendous progress in managing wastes during the past few decades. Our air, water, and soil are better protected through laws and regulations that govern handling and disposal of wastes and toxic substances. Yet, despite the efforts of business, government, and citizens, the total volume of toxic substances entering the environment and our bodies is increasing. Despite aggressive recycling programs, the amount of garbage continues to grow. The long term effects of these accumulations are uncertain, but there is increasing evidence that there are potential health risks to humans and ecosystems.

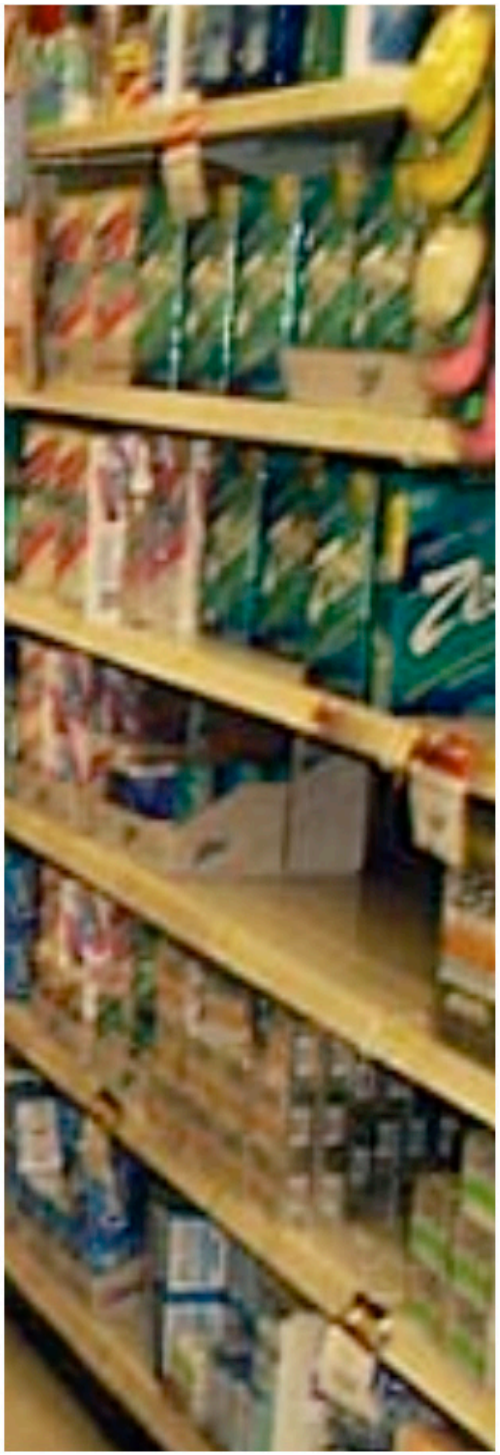
Myths and Misconceptions

It is certainly better to manage hazardous waste properly than to dump it in open pits. It is better to recycle than to throw everything in the garbage. These solutions alone, however, will not ensure a healthy environment for future generations.

We hold many misconceptions about waste, the use and disposal of toxic chemicals, and the relationship between environmental health and economic vitality. This publication highlights five such myths, and presents information that offers a more accurate picture. In some cases, the statistics are surprising, in others distressing, but there is something we can do about it.

The duty to enhance, protect, and preserve Washington's environment rests on the shoulders of government, businesses, and citizens alike.

Read on to learn more about the myths, and what Ecology is doing to address them.....



Myth 1. If a product is on the shelf — it is safe

When we purchase a product, most of us assume that it has been tested and declared safe for the intended purpose. What we may not know, however, is that:

- **Many chemicals in products have not been tested or approved by any regulatory authority for their impacts on human health.**
- **We are exposed to chemicals through product use, disposal, and incineration.**
- **Children and infants are at greater risk of harm from exposure because of their low body weight, high metabolism rates, and the tendency to put things in their mouths.**

The use of chemicals is proliferating and there is no systematic assessment of their impact on human health or the environment.

Chemical testing and products

To provide a means of evaluating new chemicals entering the marketplace, the Toxic Substances Control Act (TSCA) was passed in 1979. Many question its effectiveness in keeping harmful toxins out of consumer goods because:

A 1997 EPA study found that of the 3,000 chemicals imported or produced in the United States in amounts over 1 million pounds, 43 percent had no publicly available data on toxicity.

- Most of the chemicals used in production today were introduced before 1979.[1] While TSCA addresses these pre-existing chemicals through testing rules, it can take decades to accumulate the required studies and evidence.
- Under current policy, the presumption is that a chemical is safe until proven harmful, and it is the responsibility of EPA, not industry, to demonstrate that a chemical poses "unreasonable risk" to society.

Excess trimmings from the poly-vinyl chloride (PVC) molding process must be disposed of as hazardous waste because of the toxic constituents, yet the material inside the molding which becomes the product itself is virtually unregulated for the rest of its life.

- Government has little authority over what kinds of testing can be requested from chemical companies. For new chemicals, the approval process may be as short as three weeks.[2]

If it takes decades to prove that a pre-existing chemical is harmful, is it realistic to expect that a new chemical can be presumed safe in three weeks? Once a chemical is approved, it is difficult to limit its use. There have been very few actions to limit the use of pre-existing chemicals. DDT and PCBs were used for many years before being banned, and persist in the environment.

There are thousands of chemicals in items we use everyday. The government tallied 5,000 chemical ingredients in cosmetics; over 3,200 chemicals added to food; 500 chemicals used as active ingredients in pesticides and 1,010 chemicals used in 11,700 consumer products.[3] Many electronic products, for example, contain toxic components

such as lead, cadmium, mercury, and brominated flame retardants. Some of these chemicals would be considered hazardous waste if they were byproducts from production, but when they are incorporated into a product, they are assumed safe for the intended purpose. We all have benefitted from the products and processes made from synthetic chemicals, but there is growing concern over what effects these have on our environment and our bodies.

❖ Exposure through product use and disposal

We can be exposed to chemicals in consumer goods when:

- **Products are used** Many times, routine contact with products exposes people to toxic chemicals. Chromated Copper Arsenate (CCA) wood, used in products such as picnic tables, and playground equipment, leaches enough arsenic to routinely fail toxicity tests. Children are especially vulnerable because arsenic sticks to their hands and is ingested when hands get put into their mouths.

The Consumer Product Safety Commission has found that children who play on pressure-treated playsets face an increased risk of getting lung or bladder cancer later in life.

- **Products are discarded** Many of the everyday products we use in our homes, such as oven cleaners, furniture polish, and paints, contain known toxic ingredients. In addition to being exposed through inhalation when these chemicals are used, additional exposure through environmental contamination can occur when the unused portions of these products are thrown away or poured down the drain.

An analysis of the contents of vacuum bags from homes in King County revealed the presence of mercury and other heavy metals and hazardous pollutants. Mercury was detected in 5 out of 7 samples and phthalates were detected in all samples.

"Flashpoint," May 2002 King County Hazardous Waste Program monthly newsletter

- **Products are incinerated** - The combustion of chlorine-containing products such as poly-vinyl chloride (PVC) -in fires or waste incineration - leads to the formation of hydrochloric acid and dioxins which are released into the air and water. Dioxin is one of the most carcinogenic substances known.

- **Products leak, drip, vent or are broken** - fever thermometers, fluorescent tubes, and light-up sneakers, all contain mercury. If the product breaks, mercury can be absorbed through direct contact. If it is thrown away, mercury can contaminate water sources, accumulating in organisms up the food chain.

Some chemicals used in products are listed on the label ingredients, but many are considered "proprietary" by the industry and are not disclosed. Even if we are conscientious consumers, and strive to make safe, informed choices, it is difficult to distinguish products that truly are "non-toxic."

❖ Chemical body burden & effects on children

Scientists have begun to investigate the significance of low dose exposures, and the effects of toxins in developing babies and young children. Recent studies show that:

- Breast-fed infants are exposed to levels of dioxin that exceed adult exposures by as much as a factor of 50.[4]

One in every 200 U.S. children suffer from developmental or neurological deficits caused by exposure to known toxic substances.

"Physicians for Social Responsibility," Sept. 2000 report

- Animal studies of lead, mercury and PCBs underestimated levels of exposures that cause effects in humans by 100-10,000 fold.[5]
- Brominated flame retardants (PBDEs), used in furniture and clothing, have been found to be persistent in the environment and to accumulate in women's breast milk.[6]
- The latest EPA findings indicate that 1 in 6 women (16%) of childbearing age in the U.S. exceed "safe" levels for mercury.

We cannot assume that products available for purchase have been tested for their impact on human health and the environment, because there is no legal requirement of industry to do so. Many of the long-term effects of chemicals used in products are still unknown, and there is growing evidence that we are exposing present and future generations to harmful consequences.

Myth 2. Existing regulations provide adequate protection from toxic chemicals

The regulatory system does reasonably well managing certain toxic wastes from industrial facilities through the enforcement of state and federal hazardous waste laws. Still, many toxic chemicals are released into the environment through:

- **Permitted discharges**
- **Exclusions to regulations**
- **Non-point sources**
- **Hazardous waste management related problems**

The total amount of toxins entering the environment through these channels is significant, and those that are not regulated or tracked by the government far outweigh permitted sources. The cumulative effects of these hazardous wastes contribute to an increasing toxic burden in our environment and our bodies.

❖ Permitted Discharges

Businesses are legally allowed to release many toxic chemicals into the air and water:

In 2000, 31 million pounds of chemicals were reported legally released to Washington's waterways.

EPA Toxics Release Inventory

- 1.2 billion pounds of registered pesticide products are legally released each year in the U.S.[1] In Washington, this figure is approximately 24 million pounds.
- Mining operations in Washington accounted for 3.6 million pounds of legally released chemicals in 1999.[2] These reported releases represent only a portion of the wastes generated by mining operations.
- Industry is legally allowed to treat and send certain wastes into the sewer; wastes which would otherwise be handled according to hazardous waste regulations.
- Of the top 20 chemicals reported legally released into the environment, nearly 3/4 are known or suspected to have adverse effects on the brain, spinal cord, and/or nervous system.[3]

These toxic releases are accepted as the normal course of business to meet demands for goods and services in our society. Studies have shown between 80 and 250 toxic chemicals reside in our bodies, as well as in streams and soils.[4] Many of the risks associated with these chemicals are unknown.

❖ Exclusions to regulations

Not all hazardous wastes are tracked and measured. Because it would be impossible to monitor all the hazardous substances that flow through our economy, certain facilities and products are exempt from hazardous waste regulations. There are 39 categories of Excluded Hazardous Wastes in Washington. Some of these excluded sources include:

- Hazardous waste from small businesses (Chapter 173-303-070(8)(b)). There are over 3,000 businesses that fall under this category.

- Household hazardous waste — from single and multiple dwellings, hotels, motels, and other residential sources. A chemical which a regulated industry would have to treat, can simply be thrown in the garbage.

Because of its potential threat to human health, by January 2004, EPA will no longer allow pressure-treated wood containing arsenic to be used for residential applications. Large quantities of arsenic treated wood in use today, however, will be disposed of over the next few decades.

- Treated wood waste, which often contains arsenic.

While individual quantities may be small and relatively insignificant, the cumulative amounts of these exempt hazardous wastes represent a significant burden of toxic chemicals released into the environment.

❖ Non-Point sources

The cumulative effect of pollution from diffuse sources represents an increasing threat to safe drinking water, and is the leading cause of water quality problems in many areas. Studies show that:

Between 1992 and 1996, Washington discharged 1.5 million pounds of cancer-causing pollutants directly into the water - more than any other state in the nation.

"Changing Our Water Ways," Washington State Department of Natural Resources, 2000 report

- High concentrations of pollutants in run-off such as lawn and garden chemicals, petroleum products, and heavy metals have been found to contaminate drinking water sources and impact fish populations.[5]
- Toxic substances from products used on farms and lawns, as well as those flushed down toilets and sinks, have been detected in waterways.
- Metals are one of the two most significant non-point pollutants that damage water in Puget Sound. Fecal coliform bacteria is the other.

These "non-point" sources have been designated as one of the primary causes of impaired salmon habitat.[6] As our population increases, the small amounts of chemicals poured down the drain or onto the ground add up to large overall impacts.

❖ Hazardous waste management problems

207 million pounds of hazardous wastes were generated by regulated businesses in 2000.[7] The waste was treated and sent to permitted Treatment, Storage and Disposal (TSD) facilities for management. According to Ecology's 2000 report to the Legislature,[8] the commercial waste management industry in Washington faces a number of challenges:

- **Environmental contamination** because of leaks, spills or accidents due to lack of attention to housekeeping and maintenance. Over the past 15-20 years, a significant number of waste management facilities have been contaminated with hazardous waste or used oil.
- **Lack of adequate requirements** to assure that facility owners and operators will plan and pay for the closure of facilities. CleanCare, a chemical, solvent, and petroleum recycling facility from 1974-1999, closed its doors on November 17, 1999 with funds available for closure of less than $100,000. EPA had to assume responsibility for the closure, spending $4.3 million of taxpayer money.
- **Lack of industry stability** from business changes due to sales, mergers, startups, closures and bankruptcies.

As long as hazardous waste is being generated we must find ways to manage it safely. Managing hazardous waste is not, however, the same as eliminating it.

76% of the 105 hazardous waste handling facilities that have existed in Washington have had some degree of cleanup obligation because of contaminated soil or groundwater.

Washington State Department of Ecology pub. #02-04-028

By accepting the belief that existing laws and long-term management will protect us from the dangers of toxic chemicals, we discourage the notion that our needs can be met without generating hazardous substances in the first place.

Myth 3. Landfills solve the waste problem

As long as there is waste, landfills will continue to provide an important service. Modern landfill regulations were developed in the 1990's to ensure protection against possible ground-water contamination from toxic leaks and to collect and extract dangerous gases. While new state of the art landfills offer vastly improved environmental protection over earlier landfill designs and waste management practices, reliance on landfills does not provide an adequate solution to our future resource and waste management problems because:

- **Permanent disposal of potentially useful materials means our economy must rely on extracting increasing amounts of diminishing natural resources.**
- **Hazardous substances are present in many wastes being disposed.**
- **Subsidies and hidden impacts distort the complete costs of landfilling, perpetuating the belief that it is economically advantageous to dispose of, rather than reclaim, material.**

Waste is inefficient. Our "landfill crisis" is not a lack of landfills, but ignoring the true cost of waste and missing opportunities to be more resource-conscious and foster new business markets.

❖ Permanent disposal means we must extract more from nature

Every pound of waste going into a one-way landfill means we must rely on natural resources like forests, petroleum reserves, and mines to meet the material demands of a growing population. There is an increasing amount of waste being generated in Washington, and an increasing demand on natural resources.

- Currently, 6.8 pounds of waste are disposed each day for every person in Washington. In 2001, nearly 7.5 million tons of solid waste were disposed of in Washington landfills[1] — enough to fill Safeco Field ***twenty*** times every year.
- Continued population growth is rapidly depleting Washington's mineral deposits. One example is the Steilacoom sand and gravel deposit, once one of the five largest mines in the country and mined for 100 years. It is now depleted.[2]

It would be physically impossible for everyone currently on earth to live the lifestyle of the average American. It would require the resources and absorptive capacities of four additional planets.

"Our Ecological Footprint," Mathis Wackernagel

- Overall per capita consumption in the US has risen 45% in the past 20 years.[3] This escalating rate of consumption is outpacing the environment's ability to replenish itself.

What we throw away as garbage has economic potential and natural resource consequences. Reducing our impact on natural systems will require each of us to purchase more smartly and support the infrastructure needed to put discarded materials back to use. Current technical advances can convert waste to valuable resources for future industrial use, providing more efficient material use with less environmental impact. Instead of hauling "trash" to the landfill to be buried, many "used materials" can be transported to distribution centers to be stored for future use and converted to products of value.

❖ Hazardous substances in landfills

Despite the creation of household hazardous waste collection centers and special events to collect hazardous products, most of us at one time or another have thrown away a used battery or an old electronic appliance. These small contributions add up to large impacts.

- Only 14,000 tons of used hazardous products such as motor oil, batteries, paints, and flammable liquids were collected in 2001 from households and small businesses.[4] This is a very small portion of the total amount of these wastes, the rest is stored or disposed of in landfills.
- Despite disposal bans for some toxins, the sheer number of products containing a mixture of toxic ingredients means many hazardous substances are disposed of in landfills.
- Toxins can remain for many years with a potential to leach and contaminate groundwater. Even if leachate is successfully captured, it must be treated before it is discharged, incurring additional expense.

EPA's 1996 Hazardous Waste Characteristics Scoping Study concluded that the test for toxicity fails to consider hundreds of chemicals that cause waste to be hazardous to public health. This means that some hazardous wastes are being disposed of as ordinary solid waste.

As long as hazardous substances are incorporated into production processes, there is a need to have programs to manage and handle hazardous waste as safely as possible. The out-of-sight, out-of-mind mentality of disposal, however, may facilitate continued use of toxic materials in products. If material was designed to be reclaimed and recycled, the need to incorporate many hazardous substances would be questioned.

❖ Hidden costs and impacts of disposal

It is easy to throw something away and think that is the end of it, but the true costs and impacts of permanent disposal are not always apparent.

- Tax advantages to mining and extracting industries for virgin material promotes the economic advantage of disposal over material reclamation.
- A landfill operator's legal liability for monitoring and providing financial assurance typically ends 30 years after a landfill is closed. The waste in the landfill remains a potential threat for centuries.

208 old dumps and landfills have been cleaned up under the Model Toxics Control Act cleanup regulations in Washington, and an additional 15 landfills qualified as Superfund sites.

National Priorities List, Sites in Washington, EPA 2002

- As existing landfills close, newer, more expensive landfills need to be built. To be economical, these landfills need to be larger, and rely on taking in an increasing volume of solid waste. Therefore, reducing waste is not in the economic interest of the landfill owners because it reduces revenue.
- As landfills are located farther from urban areas, greater emphasis is placed on transporting wastes. While a rural community may obtain valuable revenue for hosting a facility, these revenues must be weighed against the costs of increased transportation impacts, depressed property values, possible future pollution, and lost future economic potential from cleaner, recycling based industries.

The belief that throwing things away is the best solution to waste management prevents us from addressing long term problems of natural resource depletion, rising consumption, and potential environmental and health risks from the many hazardous substances incorporated into our products. Instead of waiting for a "crisis," it is possible to make positive changes now to reduce waste and toxics, and create new opportunities for the waste management industry.

Myth 4. Today's recycling solves the waste problem

Just as landfills continue to provide an important service yet are not the ultimate waste solution, the same is true with recycling. Current recycling programs have demonstrated progress in collecting and sorting materials, but they do not successfully address long range problems of waste accumulation and resource depletion because:

- **Most products are not designed for recycling so it can be difficult and expensive to recover and reprocess materials.**
- **Virgin material subsidies and the external costs not accounted for in our disposal practices place recyclable materials at an economic disadvantage compared to virgin materials.**
- **Many companies that call themselves recyclers, are actually waste-trading — exporting the materials to other venues where they are subsequently landfilled, or recycled under hazardous environmental and working conditions.**

Recycling is a necessary component of diverting material from disposal facilities and reducing virgin material demand, but the current system is not wholly effective.

❖ Designing for recycling

Washington citizens and businesses dispose more (6.8 pounds of waste per person, per day), than they recycle (3.9 pounds per person, per day).[1] The existing system of recycling cannot address much of the material currently being disposed because few consumer products are designed to be recycled. The problems include:

- When products are made from multiple materials that are fused together, recovery of those materials is expensive, and in many cases, technically impossible. Therefore, the secondary product is not capable of being recycled, and eventually winds up in the landfill.
- The presence of toxic substances renders many products unuseable for recycling.
- Most products collected for recycling are "down-cycled" - that is, made into a product of lesser value, (e.g., office paper to toilet paper) rather than returned to the same or similar use. The result is that material disposal has not been reduced, just delayed.

If we are truly going to have a recycling process that saves money and materials, products must be designed from the beginning to be returned to industrial systems, generating new materials of the same or improved quality.

Automobiles are one of the most highly recycled products in the U.S., yet most of this is for the metals - the plastics, rubber, fabric and glass are "shredded" and disposed of in landfills. It is not yet economically feasible to separate and recycle these materials.

Green Products by Design: Choices for a Cleaner Environment

❖ Economic disadvantages of recycled materials

Recyclable materials currently compete with virgin materials in the marketplace. All of these materials compete in the global economy. While there are various market conditions that influence material choices, many recyclable materials are at an economic disadvantage compared to virgin materials because:

Because of virgin material subsidies, the U.S. still gets 3/5 of its aluminum from virgin ore, despite the fact that it requires twenty times more energy intensity than recycled aluminum. Enough aluminum is thrown away to replace the entire U.S. commerical aircraft fleet every three months.

Natural Capitalism,
Hawken and Lovins

- Subsidies in the form of below market loans, insurance, and leasing policies are available to the waste collection and disposal industry, but not to material recovery facilities.
- The dollars needed for regulatory oversight and closure of landfills, long term monitoring, and clean-up, are not considered when comparing the costs of recycling versus disposal. These hidden costs distort the true cost of waste disposal, again placing recycled material at an economic disadvantage.
- Product manufacturers are not generally held responsible for the end of life impacts of their products, therefore have little incentive to design products that use less material, are durable, are recyclable, or made from recycled materials.

Many people are willing to spend more for products they know use less natural resources to produce and create less waste. As demand for recycled material grows, industry will find ways to design products to meet this demand.

❖ Is it really being recycled?

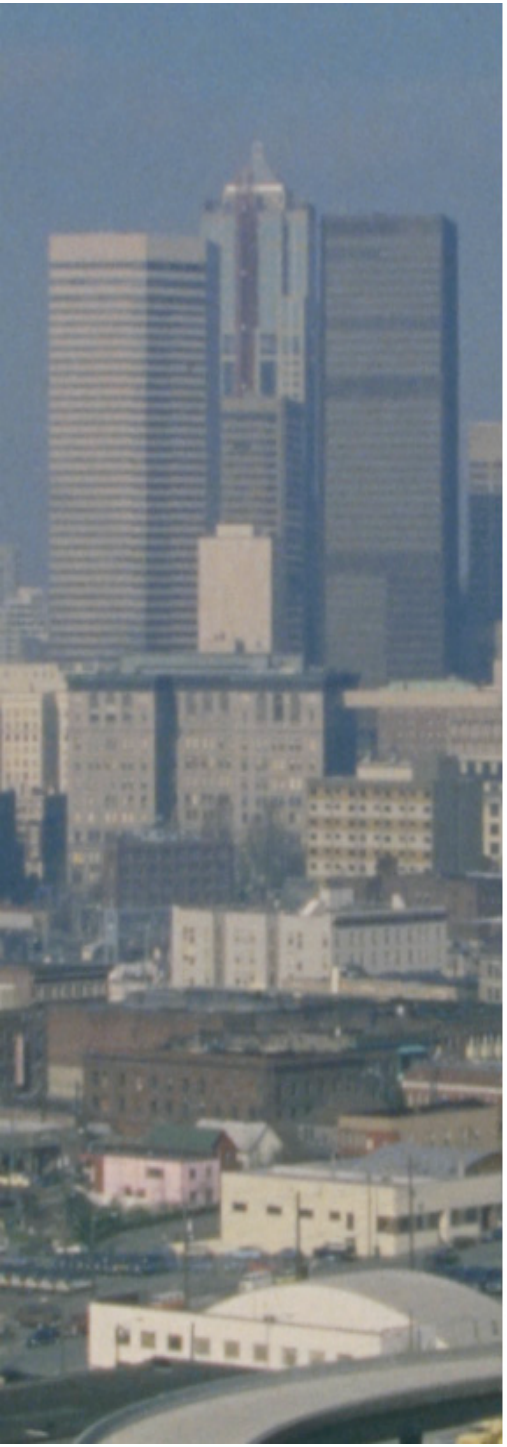
There is widespread consumer support for recycling. Many participate in some aspect of recycling because they feel it is an effective strategy for protecting the environment. When we place our recyclables out on the curb, or take our computer to be recycled, we are making a sincere effort to be environmental stewards and divert waste from disposal. Many of the materials, however, either wind up in the landfill or are exported because:

An estimated 50-80% of electronic waste collected for recycling is being exported. This export is due to cheaper labor, lack or environmental standards in Asia, and because it is still legal in the U.S.

"Exporting Harm,"
Basel Action Network

- Viable markets are needed for recycled materials. Markets have not developed fast enough to utilize recycled materials, so material collected ends up in landfills.
- Toxic components claimed to be recycled off site by one industry may not actually be getting recycled. In one case in Washington, it was found that lead compounds reportedly sent to California for recycling, were claimed by that facility to have been sent to landfills.[2]
- Recycling products with toxic components, such as electronics, is expensive in places with strict environmental and health standards. Therefore, much of this waste is sent to developing countries where adequate environmental protection laws do not exist. "Recycling" efforts of electronic waste documented in China reveal open burning of plastics and extensive dumping of acids and materials,[3] creating extremely harmful environmental and health conditions.

If recycling processes are truly going to be effective, additional efforts are required to eliminate unfair economic advantages for virgin materials, to allow for a viable recycled materials market, and to improve overall material stream quality through the elimination of toxins and better product design.



Myth 5. Eliminating waste and toxics will be bad for the economy

Waste is a result of poor product design, failure to efficiently use resources, and subsidized markets that encourage waste. Addressing these inefficiencies represents a tremendous opportunity to add value to our existing economic base and create new viable markets. Eliminating waste and toxins will benefit the Washington economy because:

- **Existing businesses can save money**
- **There will be new job creation (reuse, remanufacturing, and recycling industries)**
- **Businesses will be able to compete more effectively in the global economy.**

Many leading businesses understand that waste is lost profit and have set out to eliminate waste to benefit their bottom lines.

Eliminate waste — save money

Our current linear system of extracting raw materials on one end and disposing used products on the other is expensive and inefficient.

- The primary output of today's production processes is waste. Across all industries, less than 10% of everything extracted from the earth (by weight) becomes usable products. The remaining 90% to 95% becomes waste from production.[1]
- Domestically, we waste 360 billion pounds of organic and inorganic chemicals used for manufacturing and processing, and 710 billion pounds of hazardous waste generated by chemical production.[2]
- Unnecessary use of toxic materials can cause harm to workers, consumers and the environment. The cost of fixing damages in the form of liability lawsuits or environmental cleanups are generally greater than the costs to prevent them.
- Industries that handle and dispose of hazardous substances must also spend money and energy on complying with regulations and permits. If toxins are eliminated, the need to be regulated is also eliminated.

The Rose Garden, the new arena for the Portland Trailblazers basketball team, has recycled over 95% of the construction waste - nearly 45,000 tons of concrete, steel, gypsum, paper, and other materials - at a savings of more than $150,000 compared to what landfill disposal would have cost.

"Building it Right,"
In Context #41, 1995

Many businesses have reduced costs by eliminating inefficient processes and recapturing material that can generate revenue. Some examples include:

- Hewlett-Packard in California is diverting 92 to 95% of its solid waste, saving almost $1 million per year in waste disposal costs by recycling cardboard, foam, plastic peanuts, and other low-density polyethylene plastics, and reusing pallets.[3]
- Epson Portland, Inc. (EPI) has cut hazardous waste by 37% since 1997 and has recycled close to 6 million pounds of material. The company diverts almost 99% of its waste going to the

landfill through recycling and reuse programs and has saved approximately $370,000 through reductions in disposal costs and generation of recycling revenues.[4]

- United Coatings, Greenacres WA developed an innovative method for reusing solids, used non-hazardous products wherever feasible to avoid the generation of regulated hazardous wastes, and began purchasing raw materials in packaging that did not require disposal, resulting in savings of $25,000 - $35,000 a year in disposal fees.[5]

These businesses have realized significant savings by making fundamental changes in their operational systems to move from linear to closed-loop systems. In a closed-loop, wastes become resources. Materials slated for disposal are reused and recycled back into products instead of being disposed of as waste. Greater reductions in cost are achieved not only by eliminating the need for permits and expensive treatment or disposal of wastes, but also by using and paying for less raw material. Resources are used more efficiently and there is less demand on the environment.

❖ New job creation and economic vitality

Industries that rely on alternative material inputs and non-toxic components will provide increasing employment opportunities, creating a healthy economy and environment.

- As manufacturers begin to design products for recycling and reuse there are many opportunities for employment in materials reclamation.
- New markets and job niches are created around non-toxic products, for which demand is increasing. In the last four years, Washington has gone from 290 organic farmers to 520 because of the increased demand for organic food.[6]
- Companies offering reusable products tend to be small and locally owned and operated. These small businesses are important to providing local employment opportunities.

Recycling-based paper mills and plastic product manufacturers employ 60 times more workers than do landfills.

"Create Jobs from Discards," Grass Roots *Recycling Network*

- Washington state as a whole gains more than it loses from maintaining and enhancing our natural environment. In 2001, wildlife viewers, hunters, and fishers alone spent more than $2.1 billion in Washington, according to a recent US Fish and Wildlife survey.[7]

❖ Competitive advantage

Industries investing solely in continuing the current system will be at a serious disadvantage. Some current trends are:

- There will be more competition for raw materials, and greater market potential for businesses that address environmental scarcities.
- Consumers are demanding greater accountability and transparency from business. Investors perceive companies that are more transparent to be less risky.
- Global businesses are demanding ISO (International Organization for Standardization) certifications, which provide governments with a technical base for health, safety and environmental data on products they use.

There is mounting evidence that the "old world" tradeoff paradigm pitting economic success against environmental and social goals is seriously flawed.

Mapping the Journey, Rowledge, Barton & Brady, *1999*

- Extended Producer Responsibility (EPR) legislation that requires producers to pay for waste management have been passed in many European countries. EPR initiatives in the United States are most likely to occur at the state level, with a focus on wastes that contain toxins.

Eliminating waste and getting rid of toxicity are intuitively logical business practices that save resources, and make economic sense. Businesses in Washington are already realizing cost savings and benefits in the marketplace by reexamining these operational systems. There are risks involved with change, but there is sufficient evidence that illustrates change is both possible and necessary if we are to successfully address the needs of future generations.

Endnotes

Myth 1

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7. US Dept. of the Interior, Fish & Wildlife Service, & US Dept. of Commerce, US Census Bureau. *2001 National Survey of Fishing, Hunting, & Wildlife Associated Recreation*, Oct. 2002

What Ecology is doing

There are problems with the current systems, but there is hope for the future. With the passing of Governor's Executive Order 02-03 on Sustainable Practices, state agencies have been directed to establish biennial plans to reduce or eliminate waste, and shift to non-toxic, recycled and remanufactured materials in state purchasing and construction. The Department of Ecology is involved with many ongoing efforts to help improve the way we address waste and toxins in our state.

- Since 1999, Ecology has been working toward "green purchasing" with the Department of General Administration. This means more products with high-recycled content and other environmental attributes are offered for purchase on state contracts.
- The Toxic Reduction Engineer Exchange (TREE) program is a free technical-assistance service offered to businesses in which Ecology engineers and scientists use their expertise in industrial processes and pollution prevention to find ways for businesses to reduce waste, increase efficiency and save money.
- The Persistent Bioaccumulative Toxin (PBT) Strategy developed by Ecology calls for making continual reductions of PBT releases into Washington's environment over the next 20 years.

Beyond Waste

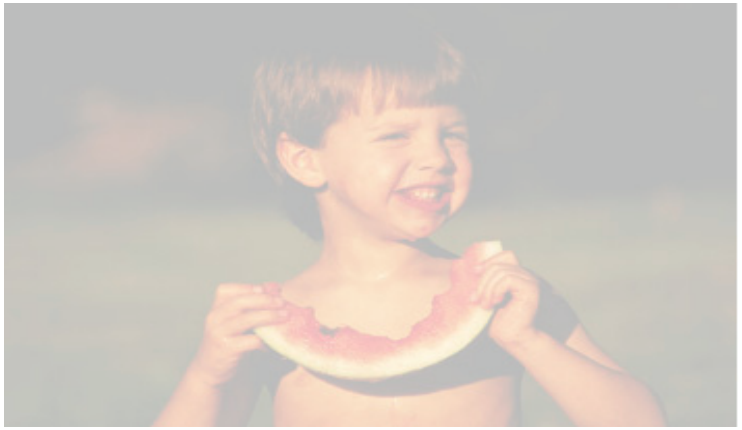
> ***We can transition to a society where waste is viewed as inefficient, and where most wastes and toxic substances have been eliminated. This will contribute to economic, social, and environmental vitality.***

This is the future envisioned in the Beyond Waste Project — Ecology's long term strategic plan for systematically eliminating wastes and toxic substances from being created in the first place. This new way of thinking about waste and toxins will help us to protect environmental and human health, and create opportunities to enhance the state's economy and competitiveness. Combined with the other ongoing efforts at Ecology, this updated solid and hazardous waste plan will guide Washington in a positive direction to ensure a healthy environment and economy for future generations.

There is a lot of work to do and it will take a team effort from government, industry, and the public to make change happen, but it is a challenge we can't afford to pass up.

To find out more about the Beyond Waste Project and other state efforts to reduce waste and toxic substances, please visit the websites listed on the back cover.

- Department of Ecology's Beyond Waste website *http://www.ecy.wa.gov/beyondwaste/*
- Governor's website for promoting Sustainable Business Practices *http://www.ofm.wa.gov/sustainability/index.htm*
- Department of General Administration's Sustainability website *http://www.ga.wa.gov/sustainability/*
- Department of Ecology's Sustainability website *http://www.ecy.wa.gov/sustainability/*



WASHINGTON STATE DEPARTMENT OF ECOLOGY

If you need this information in alternative format, please call the Hazardous Waste and Toxics Reduction Program at (360) 407-6700.
If you are a person with a speech or hearing impairment, call 711, or (800) 833-6388 for TTY.

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